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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,492	03/06/2002	Gudrun Schmidt	112843-036	8620

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EXAMINER	
MARX, IRENE	

ART UNIT	PAPER NUMBER
1651	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/018,492	SCHMIDT ET AL.	
	Examiner	Art Unit	
	Irene Marx	1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *4 and 7-15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5 and 6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Applicant's election with traverse of Group I, claims 1-3 and 5-6 is acknowledged.

The traversal is on the ground(s) that the restriction requirement is not properly formatted because group II, drawn to strains of altered *L. johnsonii* La1, should be included with 1-3 and 5-6 drawn to a process of protecting these strains against stress.

The argument is not persuasive because the scope of the claims is different inasmuch as the method of claim 1 is not specifically adapted to produce the product-by-process claimed. The method of claim 1 is directed to "protecting" the strain *L. johnsonii* La1 against any, unidentified, "stress", while the product-by-process strain of modified *L. johnsonii* La1 is specifically drawn to strains "protected against **heat stress of up to 55°C for up to an hour**". Therefore the claims differ in scope regarding the product produced by the method of claim 1 and the product-by-process claimed in claim 11. The broad definition of the term "stress" to mean "adverse conditions" is noted (Specification, page 1, paragraph 2).

Moreover, as noted in the restriction requirement, no common inventive concept is shared among groups I and II, since a technical relationship is lacking among the claimed inventions involving one or more special technical features because *Lactobacillus johnsonii* La1 strains which have been subjected to at least some stress are known in the art. See, e.g., U.S. Patent No. 5,962,062, examples 10-11 wherein strain La1 is subjected to a sublethal stress of 38°C.

Clearly different searches and issues are involved with each group.

Claims 4, and 8-15 are withdrawn from consideration as directed to a non-elected invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Carrie *et al.*.

Carrie *et al.* disclose a method for protecting *L. johnsonii* La1 against stress by submitting the strain to a sublethal thermal shock of 43°C, followed by incubation at 38°C. See, e.g., Examples 10 and 11. The medium used is reasonably presumed to contain at least some salt.

Claims 1-3 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrie *et al.* taken with Broadbent *et al.*, Kilstrup *et al.* and Volker *et al.*.

As discussed supra, Carrie *et al.* disclose a method of protecting *L. johnsonii* La1 against stress by submitting the strain to a sublethal thermal shock of 43°C, followed by incubation at 38°C. See, e.g., Examples 10 and 11.

The reference differs from the claimed invention in that the reference does not specifically address a process of protecting the strain at the temperature and salt concentrations as claimed.

However, Broadbent *et al.* disclose that *Lactobacillus* strains are protected against stress by subjecting the strains to sublethal levels of heat shock at various temperatures (See, e.g., Table 1, page 14). The reference strongly suggests that induction of heat shock proteins results in thermotolerance in various *Lactobacillus* (See, e.g., page 18, paragraph 3). Therefore, one of ordinary skill in the art would also have reasonably expected this effect in protecting *L. johnsonii* La1 against stress

In addition, Kilstrup *et al.* teach the protection of the bacteria against stress by induction of heat shock proteins in *Lactococcus* using sublethal levels of salt stress (See, e.g.,page 1834)

and Volker *et al.* similarly teach the induction of heat shock proteins in *Bacillus* using sublethal levels of heat and/or salt stress to protect the microorganisms against stress due to induction of stress tolerance in the strains (See, e.g., page 2128).

In view of the universality of the heat shock response in bacteria, one of ordinary skill in the art would have had a reasonable expectation of success of protecting *L. johnsonii* La1 against stress by inducing the heat shock proteins using sublethal levels of stress, including heat stress and salt stress.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the process of Carrie *et al.* by using different levels of sublethal temperatures and/or salt concentrations with the expectation of inducing heat shock proteins to protect the strain, as suggested by the teachings of Broadbent *et al.,* Kilstrup *et al.* and Volker *et al.* for the expected benefit of obtaining a thermotolerant and/or salt-tolerant strain which is increased in stability and shelf-life.

Thus, the claimed invention as a whole was clearly *prima facie* obvious, especially in the absence of evidence to the contrary.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irene Marx whose telephone number is (571) 272-0919. The examiner can normally be reached on M-F (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irene Marx
Primary Examiner
Art Unit 1651